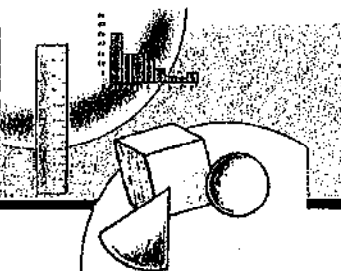


# Mathematics

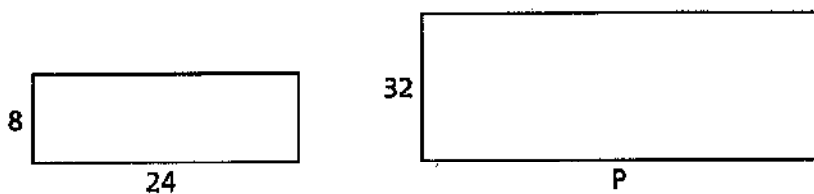
## Session 2



- 7 The distance between Earth and the sun is approximately ninety-one million, four hundred thousand miles. Which of these represents that number?

(A) 9,140,000  
(B) 9,110,400  
(C) 91,000,400  
(D) 91,400,000

- 8 Look at the similar figures below.

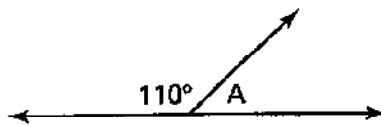


Note: The figures are not drawn to scale.

What is the length of side P?

- (A) 48  
(B) 64  
(C) 72  
(D) 96
- 9 Which of these is the best unit for estimating the mass of a pea?
- (A) grams  
(B) kilograms  
(C) centimeters  
(D) milliliters

- 10** Look at the drawing below.



Note: The figure is not drawn to scale.

What is the measure of angle  $A$ ?

- (A)  $20^\circ$
  - (B)  $45^\circ$
  - (C)  $55^\circ$
  - (D)  $70^\circ$
- 11** A bag contains 5 green crayons, 6 red crayons, and 1 white crayon. Gary picks 1 crayon without looking. What is the probability that the crayon Gary picks is not a white crayon?

- (A)  $\frac{1}{12}$
- (B)  $\frac{1}{11}$
- (C)  $\frac{5}{6}$
- (D)  $\frac{11}{12}$

- 12** Kate makes a batch of salsa in a large cylindrical pot. The inside of the pot is 9 inches in diameter, and it is filled with 4 inches of salsa. Kate plans to store the salsa in small cylindrical glass jars that are 3 inches in diameter and 4 inches high.

$$V = \pi r^2 h$$

**Step A**

How many glass jars will Kate need for all of the salsa? (Use 3.14 to approximate  $\pi$ .)

Answer: \_\_\_\_\_ glass jars

**Step B**

Explain how you determined the number of glass jars Kate will need. Use words and/or numbers in your explanation.

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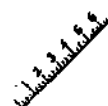
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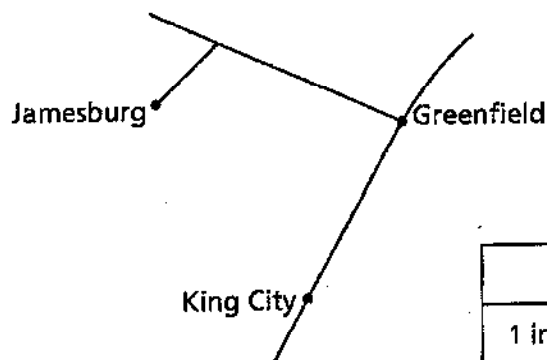
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13



Use the inch side of your ruler to help you solve this problem.

Look at the road map below.



Key
1 in. = 20 mi.

Teresa drove from Jamesburg through Greenfield to King City. What was the total distance, in miles, that she drove?

- (A) 25 miles
- (B) 35 miles
- (C) 45 miles
- (D) 55 miles

14

The original price for a pair of sneakers was \$70. John bought them on sale for 25% off. The sales tax was 6%. How much did John pay for the sneakers, including sales tax?

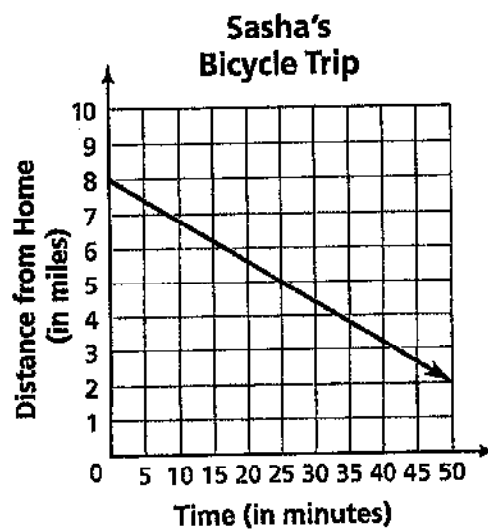
- (A) \$16.80
- (B) \$18.55
- (C) \$52.50
- (D) \$55.65



- 15 Bob plans to flip 3 coins at once. How many different ways can Bob have an outcome of 2 heads and 1 tail?

(A) 3  
(B) 5  
(C) 6  
(D) 8

- 16 The graph below summarizes Sasha's bicycle trip.



Which statement best describes Sasha's bicycle trip?

- (A) Sasha stopped riding her bike.  
(B) Sasha stayed home and time ran out.  
(C) Sasha rode her bicycle towards home.  
(D) Sasha started her bicycle trip from home.

- 17** Scott has an old fish tank in the shape of a box. It fits exactly onto a rectangular stand that is 12 inches wide and 30 inches long. The tank can be filled with water to a depth of 15 inches.

**Step A**

What is the total volume of water that Scott's old fish tank can hold?

**Answer:** \_\_\_\_\_ cubic inches

**Step B**

Scott is buying a new fish tank that fits on the same stand as the old tank, but holds up to 7,200 cubic inches of water. Use what you know about volume to explain how to find the depth of the water in the new fish tank. Use words and/or numbers in your explanation.

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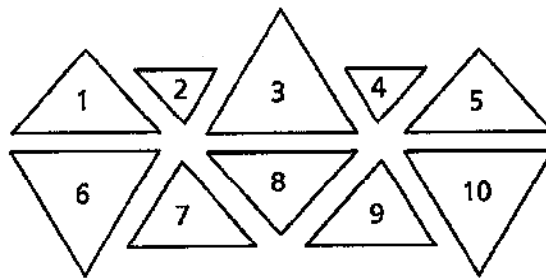
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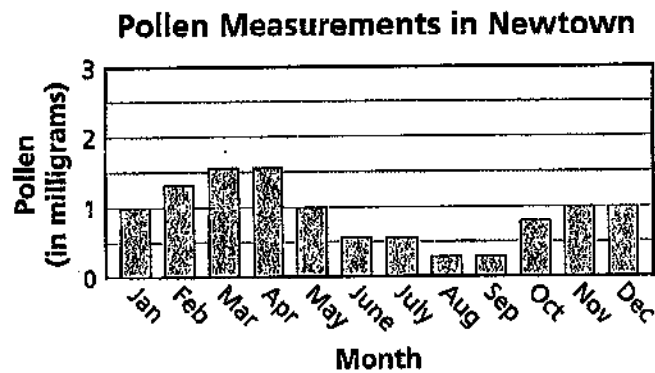
- 18** Look at the figures below.



Which of these figures appear to be congruent?

- Ⓐ 1 and 6
- Ⓑ 3 and 9
- Ⓒ 5 and 8
- Ⓓ 7 and 2

- 19** Look at the information in the graph below.

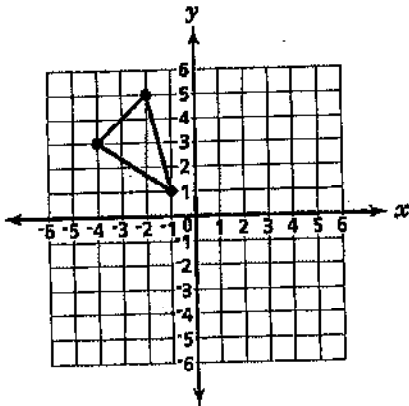


Erin wants to visit Newtown. She becomes ill when there is too much pollen in the air. What months would be best for Erin to visit Newtown?

- Ⓐ March through June
- Ⓑ June through September
- Ⓒ September through December
- Ⓓ December through March



- 20 Look at the figure below.



What will be the new coordinates of the figure when it is reflected across the  $y$ -axis?

- Ⓐ (1, 1), (3, 4), (5, 2)
- Ⓑ (1, 1), (4, 3), (2, 5)
- Ⓒ (-1, -1), (-3, -4), (-5, -2)
- Ⓓ (-1, -1), (-4, -3), (-2, -5)

**STOP** ●